UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,305	01/29/2004	Chien-Hua Su	60701(71987)	6317

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EXAMINER
WONG, BLANCHE

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/768,305	SU, CHIEN-HUA
	Examiner	Art Unit	
	Blanche Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>Corrected Papers dated August 10, 2007</u>.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-3</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-3</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>29 January 2004</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: Port-2 transfer queue 32 (p.5 in step S14 and p.6 in step S33). Corrected

drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office

action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the

sheet, even if only one figure is being amended. Each drawing sheet submitted after the

filing date of an application must be labeled in the top margin as either "Replacement

Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by

the examiner, the applicant will be notified and informed of any required corrective

action in the next Office action. The objection to the drawings will not be held in

abeyance.

2.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show

every feature of the invention specified in the claims. Therefore, the "a transfer queue

of the second port", "a transfer queue of the microprocessor" and "a transfer queue of

the port" (all in claim 3) must be shown or the feature(s) canceled from the claim(s). No

new matter should be entered.

Claim Objections

3.   Claims 1 and 3 are objected to because of the following informalities:

With regard to claim 1, Examiner suggests replacing "indexes" with "indices" for the plural form.

With regard to claim 1, Examiner suggests replacing "the ports" in lines 7 and 16 with "the plurality of ports" in consistent with "a plurality of ports" in line 2.

With regard to claim 3, Examiner suggests replacing step (1-1) with "retrieving a packet index from the packet index buffer by the packet switching control unit, wherein the packet index which indicates an unoccupied packet area in the packet register" in consistent with steps (2-1) and (3-1).

With regard to claim 3, Examiner suggests replacing "a packet transfer queue" in line 3 with "packet transfer queue circuitry" or "a plurality of port transfer queues" as shown in Fig. 1.

With regard to claim 3, Examiner suggests replacing "the index" in line 28 with "the packet index" in consistent with antecedent "a packet index" in line 27.

With regard to claim 3, Examiner suggests replacing "a port" in line 38 with "a port of the switching hub" for clarity.

With regard to claim 3, Examiner suggests inserting "by the packet index" after the word "indicated" at the end of line 48.

With regard to claim 3, Examiner suggests removing "i" in line 51.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   **Claims 1 and 3** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

6.   There is insufficient antecedent basis for this limitation in the claim.

        Claim 1, line 8, "the ports transferred".

        Claim 1, line 12, "the indexes".

        Claim 1, lines 15-16 and 18, "the packet indexes" and "the packet index"

respectively.

        Claim 3, line 38, "the processed packet".

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   **Claims 1 and 2** are rejected under 35 U.S.C. 102(b) as being anticipated by

Gentry et al. (U.S. Pat No. 5,740,448).

        With regard to claim 1, Gentry discloses a data transfer structure comprising:

(Fig. 4)

        a plurality of ports for transferring packets **(media interface 32, col. 4, line 18)**;

a packet switching control unit **(NIC 12, col. 4, line 10)** for controlling a packet

transfer procedure **(DMA, col. 4, line 26)** of each of the plurality of ports;

a microprocessor **(Core 22, col. 4, line 16)** for processing packets received form

each of the ports;

a packet transfer queue circuitry **(TX FIFO 28 and RX FIFO 30, col. 4, line 17)**

for temporarily storing the packet transfer queues between the microprocessor and the

plurality of ports;

a packet register **(external buffer memory 42, col. 4, line 36)** divided into a

plurality of packet areas **(bucket) (free buckets, col. 4, line 42)** and being used for

temporarily storing packets of each of the ports transferred during the packet transfer

procedure **(When network interface circuit 12 begins receiving packets ... through**

media interface 32 ... into external buffer memory 42, col. 5, line 49); and

a packet index buffer **(host memory 50, col. 5, line 43)** for temporarily storing

index data **(descriptor ring 52 and completion ring 54, col. 5, line 44)**, wherein each

of the packet indexes is used to indicate an unoccupied **(free)** packet area **(free**

buckets, col. 4, line 42)(See Also receive RX free target data descriptor rings 580,

col. 5, lines 58-59) in the packet register **(external buffer memory 42, col. 4, line 36)**;

wherein

during the packet transfer procedure, the microprocessor **(Core 22, col. 4, line**

16) is capable of accessing any one of the packet indices **(descriptor ring 52 and**

completion ring 54, col. 5, line 44) stored in the packet index buffer **(host memory**

50, col. 5, line 43), so as to transfer packets from the plurality of ports to be temporarily

stored in the unoccupied packet area **(free buckets, col. 4, line 42)(See Also receive**

RX free target data descriptor rings 580, col. 5, lines 58-59) in the packet register

(external buffer memory 42, col. 4, line 36) indicated by the packet index **(descriptor**

ring 52 and completion ring 54, col. 5, line 44) accessed by the microprocessor

(Core 22, col. 4, line 16).

With regard to claim 2, Gentry discloses the switching hub architecture as

claimed in claim 1. Gentry does not expressly teach a port-to-port packet transfer

procedure, a port-to-microprocessor packet transfer procedure, and a microprocessor-

to-port packet transfer procedure. Nevertheless, the recited port-to-port packet transfer

procedure, port-to-microprocessor packet transfer procedure, and microprocessor-to-

port packet transfer procedure are inherent in the Gentry's system because there is

intercommunication between the NIC/Core (microprocessor) and the interface (port)

during data transfer.

Allowable Subject Matter

9.   Claim 3 would be allowable if rewritten or amended to overcome the rejection(s)

under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Blanche Wong whose telephone number is 571-272-
3177. The examiner can normally be reached on Monday through Friday, 830am to
530pm.
        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW
August 6, 2007

EDAN D. ORGAD
SUPERVISORY PATENT EXAMINER